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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NEGRON, ISMAEL

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.
2. Applicant's amendment filed on March 3, 2003 has been entered. Claims 1, 9, 20 and 24 have been amended. Claim 23 has been cancelled. Claims 25-27 have been added. Claims 1-22 and 24-27 are still pending in this application, with claims 1, 9, 20 and 24 being independent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-18, 20 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ranka et al. (U.S. Pat. 6,097,870).

Ranka et al. discloses an illumination device having:

- **a laser for generating a light beam**, Figure 9, reference number 92;
- **a microstructured optical element for receiving the light beam**
- **a laser for generating a light beam**, Figure 9, reference number 96;
- **the microstructured element spectrally broadening the light beam**, column 7, lines 11-38;
- **optical means for shaping the spectrally broadened light beam**, Figure 9, reference number 96.2;
- **the light beam being directed to illuminate an object**, inherent;
- **means for selecting at least one wavelength from the broadened beam and directing it to the object**, column 7, lines 39-51;
- **means for adjusting the power of the broadened beam**, column 7, lines 7-10;
- **means for adjusting the spectral composition of the beam**, column 7, lines 18-38;
- **the beam being composed of a plurality of pulses**, column 6, lines 14-17;
- **means for adjusting the width of the pulses**, column 9, lines 52-58;

- **means for adjusting the chirp of the pulses, column 10, lines 17-20;**
- **the microstructure element having a plurality of micro-optical structure elements, Figure 1, reference number 14;**
- **the micro-optical structure elements having at least two different optical densities, column 4, lines 1-5;**
- **the microstructure optical element having a first region with a homogenous structure and a second region formed by the micro-optical structure elements, Figure 1;**
- **the first region enclosing the second region, Figure 1, reference number 16;**
- **the microstructure optical elements being formed by at least one selected from the group consisting of adjacent glass, plastic material, cavities, cannulas, webs, honeycombs or tubes, column 4, lines 10-13; and**
- **the microstructured element being configured as an optical fiber, column 2, lines 14-24.**

Ranka et al. discloses all the limitations of the claims, except the illumination device being for an apparatus selected from the group consisting of a confocal scanning microscope, a flow cytometer, an endoscope, a chromatograph and a lithography instrument.

Art Unit: 2875

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the illumination apparatus of Ranka et al. as the illumination source for an apparatus selected from the group consisting of a confocal scanning microscope, a flow cytometer, an endoscope, a chromatograph and a lithography instrument, as such apparatus and the use of optical waveguides as their illumination sources are old and well known in the art. Optical waveguides as preferred in such apparatus for their small size and beam profile provided by having a remote light source and the light conducting characteristics of optical fibers. Ranka et al. Testifies to such uses in column 1, lines 6-8.

In addition, the Examiner take Official Notice of Applicant's statement conceding that Ranka et al. teaches an illumination device having a laser, a microstructured fiber and the laser light being broadened in the fiber by non-linear effects. See page 1, lines 14-20 of the specification as filed.

Allowable Subject Matter

4. Claims 5, 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office Action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to

resolve any informalities remaining therein before the application is passed to issue.

This will avoid possible delays in the issue process.

6. The following is a statement of reasons for the indication of allowable subject matter:

Applicant teaches an illumination device for an apparatus selected from the group consisting of a confocal scanning microscope, a flow cytometer, an endoscope, a chromatograph and a lithography instrument. The illumination device having a laser, a microstructured optical device, means for spectrally broadening and shaping the laser beam to direct illumination onto a object, such microstructured device having a photonic band gap material and means to adjust the polarization of the spectrally broadened laser beam; or the microstructured optical device being a tapered fiber.

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically means for spectrally broadening and shaping the laser beam to direct illumination onto a object, such microstructured device having a photonic band gap material and means to adjust the polarization of the spectrally broadened laser beam; or the microstructured optical device being a tapered fiber use as an illumination device for an apparatus selected from the group consisting of a confocal scanning microscope, a flow cytometer, an endoscope, a chromatograph and a lithography instrument.

Response to Arguments

7. Applicant's arguments filed March 3, 2003 have been fully considered but they are not persuasive.
8. Regarding the Examiner's allowance of claim 23 over Ranka et al. (U.S. Pat. 6,097,870), applicant's amendment of independent claims 1, 9, 20 and 24 to include the limitation claimed in now cancelled claim 23 fails to place the application in condition for allowance as such amendment do not include all the limitations of the claim 23 into the independent claims.

Claim 23 was deemed allowable as the combination (emphasis added) of the limitations of claims 20 and 21 (from which claim 23 was dependent) and claim 23 was not disclosed, or even suggested, by the prior art made of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (703) 308-6086. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (703) 305-4939. The facsimile machine number for the Art Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.



ALAN CAPASSO
PRIMARY EXAMINER

Inr

June 8, 2003